ANALYSIS OF TECHNICAL-TACTICAL IN THE ACB BASKETBALL LEAGUE ACCORDING TO THE SPECIFIC POSITION AND PHASE COMPETITION

ANÁLISIS DE LOS INDICADORES TÉCNICO-TÁCTICOS DE LA LIGA DE BALONCESTO ACB SEGÚN EL PUESTO ESPECÍFICO Y LA FASE DE LA COMPETICIÓN

***S. López-Araya*[1], *A. Martínez-Sánchez*[1], *R. Cachón*[1], *S.J. Ibáñez*[1]**

[1] Didáctica de la expresión Musical, Plástica y Corporal; Facultad de Ciencias del Deporte; Universidad de Extremadura, España

Correspondence:
S. López-Araya, slopezar@alumnos.unex.es

Short title:
Technical-tactical Analysis in the ACB League Based on Specific Position and Competition Phase

How to cite this article:
López-Araya, S., Martínez-Sánchez, A., Cachón, R. & Ibáñez, S. J. (2026). Analysis of technical-tactical in the ACB basketball league according to the specific position and phase competition. *Cultura, Ciencia y Deporte*, *21*(69), 2401. https://doi.org/10.12800/ccd.v21i69.2401

Received: 13 January 2025 / **Accepted:** 16 October 2025

Esta obra está bajo una Licencia Creative Commons Atribución-NoComercial-CompartirIgual 4.0 Internacional.

Abstract

Basketball is an invasion sport characterized by a combination of technical actions, tactical principles, and a demand for multiple physical actions at high intensities. This sport has been analyzed based on playing position and championship phase, showing distinct behaviors between these factors. The aim of this research was to analyze the technical-tactical actions according to the Specific Position and Competition Phase of basketball players in the ACB League during the 2022–23 season. A Mixed Linear Model was applied, controlling for the random factor of each player's identifier, revealing significant differences between Specific Positions, Competition Phases, and the Interaction of both variables. The results indicate that each Specific Position exhibited distinctive behavior throughout the tournament. Additionally, the phases of play differed from one another, with higher action volumes during the Regular Season. Lastly, the behavior of Specific Positions evolved in the type and number of actions performed depending on the phase played. These differences could result from multiple factors such as employed strategies, the degree of opponent resistance, match types and other elements. These results should be considered both for designing training tasks and for readjusting strategies employed throughout the championship or adapting to potential strategic changes by opposing teams.

Keywords: Basketball, specific position, competition phase.

Resumen

El baloncesto corresponde a un deporte de invasión, caracterizado por una combinación de acciones técnicas, principios tácticos y una demanda de múltiples acciones físicas a altas intensidades. Este deporte ha sido analizado en función de la posición de juego y de la fase del campeonato, mostrando comportamientos distintos entre estos factores. El objetivo de esta investigación fue analizar las acciones técnico-tácticas en función del Puesto Específico y la Fase de Competición de los jugadores de baloncesto de la Liga ACB de la temporada 2022–23. Se realizó un Modelo Lineal Mixto controlando el factor aleatorio del identificador de cada jugador, encontrando diferencias significativas entre los Puestos Específicos, entre las Fases de Competición y en la Interacción de ambas variables. Los resultados indican que cada Puesto Específico se comportó de una manera distintiva durante el torneo. También, las fases de juego fueron diferentes entre sí, con mayores cantidades en la Fase Regular. Y por último, el comportamiento de los Puestos Específicos evolucionó en tipo y número de acciones realizadas en función de la fase disputada. Estas diferencias podrían ser producto de múltiples factores como las estrategias empleadas, el grado de oposición del rival, tipos de partidos y otros elementos. Estos resultados deben considerarse tanto para el diseño de las tareas de entrenamiento, como para reajustar las estrategias empleadas durante todo el campeonato o la posibilidad de distintos cambios estratégicos por parte del equipo rival.

Palabras clave: Baloncesto, puesto específico, fase de competición.

Introduction

Basketball, considering its structural and formal characteristics, is regarded by Read and Edwards (1992) as a formal sport and, more specifically, as an invasion sport. These sports are structured around game time, during which athletes interact in a shared space with the goal of advancing, defending and scoring points in the opponent's goal or basket. Specifically, basketball is categorized within goal sports, characterized by the pursuit of scoring in a defined target (Hughes et al., 2020). This sport combines technical skills such as shooting, passing and dribbling, along with tactical principles that continuously adapt to game conditions (Courel-Ibáñez et al., 2018). Moreover, it stands out for the demanding external load it imposes, which includes jumps, sprints, accelerations, decelerations, changes of direction and various high-intensity defensive maneuvers (García et al., 2020; Rojas-Valverde et al., 2022; Stojanović et al., 2018). All of this highlights the complexity and multifunctionality of basketball, which requires an optimal combination of physical, technical and tactical skills to achieve success.

Performance analysis in invasion sports has shown remarkable progress over the past decades in seeking explanations for the complex and unstable game factors that characterize these sports, aiming to understand their behaviors (Marcelino et al., 2011). This analysis examines the evolution of players, teams, matches or competitions based on known events, such as playing style or opponent characteristics, to identify relevant patterns and behaviors (Lago-Peñas, 2008). Coaches and sports analysts use Game Indicators (GI) as key tools to assess both individual and collective behaviors (Hughes et al., 2020). GI are defined as a set of actions that occur during a sports competition, which must be recorded based on their nature, whether quantitative or qualitative. The relevance of these actions in achieving sports success allows GI to evolve into Performance Indicators (PI), which provide a deeper level of analysis. PI encompass different dimensions, such as physiological, biomechanical, psychological, technical and tactical, depending on the research focus applied in sports studies. This comprehensive approach offers a more detailed and precise understanding of the factors contributing to sports performance and competitive success.

Ibáñez and Feu (2021) highlighted that basketball has been studied from multiple perspectives according to the classification of scientific disciplines proposed by Borms (2008). The discipline that represents more than a quarter of the research is Coaching Sciences, within which the analysis of technical–tactical PI occupies a central place. This approach frequently uses data obtained from game statistics or box scores, which makes it possible to analyze and optimize the technical–tactical performance of players and teams. The analysis of game statistics has been used to study the factors that differentiate winning from losing teams (Canuto & de Almeida, 2022) and to examine the characteristics of the best teams (Doğan et al., 2016; Ibáñez et al., 2008). In particular, contexts such as the NBA (Paulauskas et al., 2018), the ACB League (Gómez et al., 2008), the WNBA (Gómez et al., 2009), the Spanish Women's League (Gómez et al., 2006), the NCAA (Cabarkapa et al., 2024; Conte et al., 2018), wheelchair basketball (Becerra-Muñoz et al., 2023), and international championships such as World Cups (Ibáñez et al., 2003) and continental tournaments (Ibáñez et al., 2018; Madarame, 2018) have been explored. Researchers have also examined different situational variables in basketball through PI, such as the influence of match location (Bustamante-Sánchez & Jiménez-Saiz, 2024; García et al., 2014) and differences between close and unbalanced games (García et al., 2013).

Another factor that has been widely studied is the impact of competing in the Regular Season versus the Playoffs (Ferioli et al., 2021; Giovanini et al., 2021; Gomes et al., 2017). Ramírez-Arroyo et al. (2022) identified the main technical–tactical PI according to match outcome, type of game (close, balanced, and unbalanced), and Competition Phase (Regular Season or Playoffs). In men's basketball, defensive rebounds and two-point field goals made are the most consistent PI, appearing across all six types of games analyzed. In women's basketball, these same PI are among the most recurrent, although present in four of the six types of games. These findings highlight the importance of tailoring specific strategies based on gender, competitive context, and match characteristics to optimize performance and increase the likelihood of success.

On the other hand, research analyzing technical–tactical performance by playing position remains limited, both in men's basketball (Escudero-Tena et al., 2021; Sampaio et al., 2008) and in women's basketball (Fernández-Cortés et al., 2021; Gasperi et al., 2020). However, existing studies reveal significant differences in PI according to Specific Position, competitive level, and player sex, particularly in relation to match outcome. Players occupying positions close to the basket tend to record

more dunks, screens, rebounds, free throws, 2-Point Shots Made, and are more likely to commit or draw fouls. Conversely, players performing perimeter roles typically stand out in three-point shooting, assists, and actions related to ball recovery or turnovers (Escudero-Tena et al., 2021). Studies have shown that not all players are alike; based on their morphological characteristics and roles within the game, they can be grouped into similar player categories. These findings are essential for coaches to plan training adapted to the specific characteristics of their players, thereby optimizing performance and reducing the risk of injuries (Salazar et al., 2020). Individualized planning can make the difference in competitive performance and in sustaining athletes' physical condition throughout the season.

In addition, studies have identified variations in players' contributions according to their Specific Position across different Competition Phases, such as the Regular Season or the Playoffs (Fernández-Cortés et al., 2021). This information is highly valuable for coaches, as it enables them to design strategies tailored to the stage of the season, match location, and the technical–tactical profile of opponents. It also provides tools to optimize substitution management during games and to enhance the team's collective performance. However, most studies have analyzed the effects of Specific Position and differences between Competition Phases in isolation, without considering both variables simultaneously, which makes it difficult to establish consistent performance profiles applicable to real training and competition contexts.

Therefore, the present study offers a novel contribution by integrating Specific Position and Competition Phase in the analysis of technical–tactical PI in the ACB League, providing evidence on how performance evolves over the course of a season. Accordingly, the aim of this research was to analyze technical–tactical PI according to Specific Position and Competition Phase of basketball players in the ACB League during a full season, with the purpose of providing deeper and more specific scientific knowledge about this high-level competition.

Materials and Methods

Sample

This study analyzed a total of 325 games from the ACB League during the 2022–23 season, which is the highest professional basketball competition in Spain. Of these matches, 306 were part of the Regular Season and 19 were from the Playoffs. Complete player data for each Competition Phase was collected from the official ACB League website (Liga Endesa, 2023). This approach allowed for the inclusion of all relevant statistics throughout the entire season.

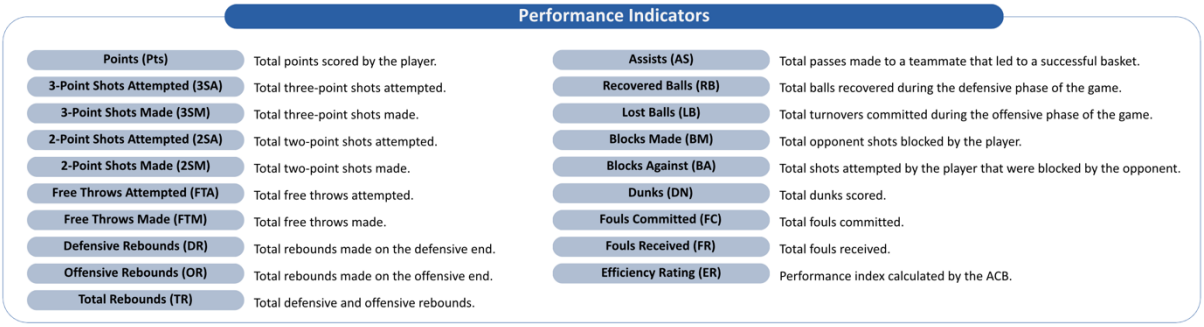
Variables

This study employed two independent variables. The first variable corresponded to the players' Specific Position (Point Guard, Shooting Guard, Small Forward, Power Forward, and Center), based on the official designations published on the ACB League's official website. This criterion ensured consistency in the classification of player positions, independent of the presence of hybrid profiles that may emerge in modern basketball. The second independent variable was the Competition Phase, divided into Regular Season and Playoffs.

A total of 19 dependent variables related to the players' technical-tactical performance were analyzed. These variables were selected and defined based on previous scientific literature on basketball performance analysis (Zhang et al., 2017). This comprehensive approach allowed for the evaluation of players' performance from a multifactorial perspective, considering both their Specific Position and the competitive context (see Figure 1).

Figure 1

Performance Indicators Analyzed



Note. Definitions adapted from Zhang et al. (2017).

Instruments

For the initial tabulation of data, an *ad hoc* spreadsheet was created using Microsoft Excel. Subsequently, this data was exported to the statistical software Jamovi 2.4.7 to perform the corresponding analyses, utilizing its integration with the R programming language for advanced calculations (R Core Team, 2022; The Jamovi Project, 2023).

Procedure

The data were extracted from the official ACB League website and normalized based on the total minutes played by each athlete. This process ensured comparability between players with different playing times, providing an equitable foundation for statistical analysis (Hughes et al., 2020).

Statistical Analysis

The assumptions of criteria were verified to check the behavior of the dependent variables (Field, 2024). The Kolmogorov-Smirnov test was used to evaluate the distribution of the data ($p > .05$), and the Levene test ($p > .05$) was used to check the homogeneity of the data. A Mixed Linear Model (MLM) was applied, where the unique identifier of each player was included as a random factor and the Specific Position and Competition Phase were included as fixed factors, evaluating the Interaction between these factors. The use of the MLM made it possible to identify differences in the PI across Specific Positions and Competition Phases while accounting for individual variability, making it a more robust option than traditional models such as ANOVAs or simple regressions. Model fit was assessed using the *AIC*, marginal R^2, and conditional R^2 indices. In addition, the intraclass correlation coefficient (*ICC*) was calculated to determine the relevance of the random effects (Correa & Salazar, 2016; Waterman et al., 2015).

To analyze the pairwise comparisons, the Bonferroni post hoc test was used. The effect size of the model was measured using partial eta squared (ηp^2), following the interpretation criteria: < .01 = trivial; .01–.06 = low; .06–.14 = moderate; > .14 = high (Cohen, 1988). The pairwise comparisons were complemented with Cohen's *d*, with the following ranges defined as < 0.2 = trivial; 0.2–0.6 = small; 0.6–1.2 = medium; 1.2–2.0 = large; > 2.0 = very large (Batterham & Hopkins, 2006). Finally, statistical power was calculated to validate the results (O'Donoghue, 2012).

Additionally, the level of statistical significance was set at $p < .05$ for all tests and the analyses were conducted entirely in Jamovi 2.4.7 (The Jamovi Project, 2023), using the advanced functionality of the R programming language (R Core Team, 2022).

Results

The adjustments of the MLM according to the fixed factors Specific Position and Competition Phase, and the random factor (player identifier), were statistically significant in all PI ($p < .05$), except for the variable Fouls Committed ($p > .05$). Model fit indices resulted in *AIC* values between –2212 and 1013, a marginal R^2 between .01 and .29, a conditional R^2 between .58 and .98, and an *ICC* between .06 and .44, indicating that individual player variability had a relevant influence on the results.

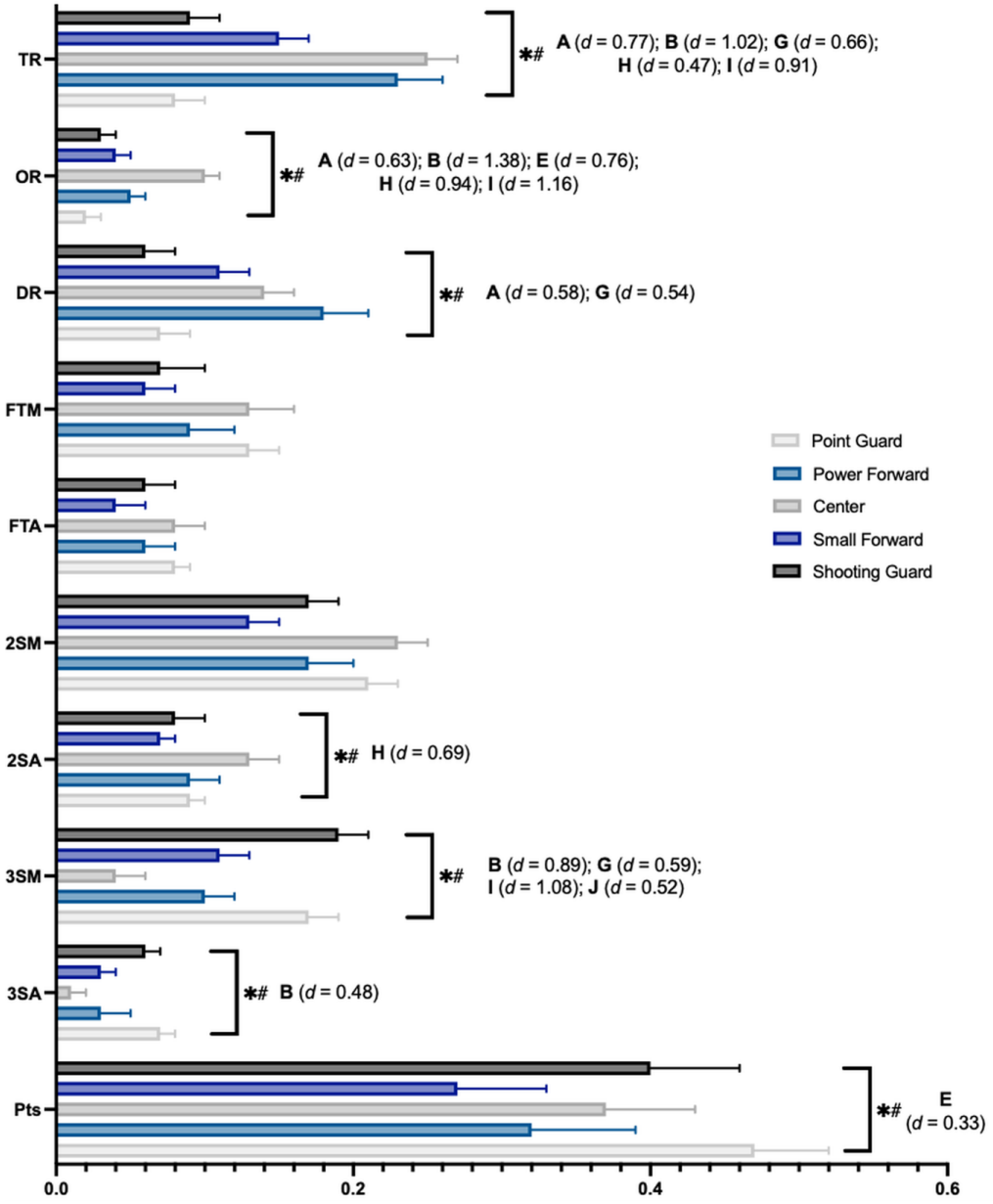
The MLM results showed significant differences among Specific Positions in nine PI ($p < .05$), with effect sizes ranging from small to large ($\eta p^2 = .03–.27$). In addition, statistical power was high for all variables (> .95), suggesting that the probability of a Type II error was minimal, thereby increasing confidence in having detected the true effects. Bonferroni post hoc tests confirmed significant differences among multiple position combinations (see Figure 2-3):

- Point Guard–Power Forward: in six PI (defensive rebounds, offensive rebounds, total rebounds, assists, blocks made, and dunks).
- Point Guard–Center: in seven PI (three-point shots made, three-point shots attempted, offensive rebounds, total rebounds, assists, blocks made, and dunks).
- Point Guard–Small Forward: in two PI (assists and dunks).
- Point Guard–Shooting Guard: in one PI (assists).
- Power Forward–Center: in three PI (offensive rebounds, blocks made, and dunks).
- Power Forward–Small Forward: in one PI (blocks made).
- Power Forward–Shooting Guard: in five PI (three-point shots attempted, defensive rebounds, total rebounds, blocks made, and dunks).
- Center–Small Forward: in five PI (two-point shots attempted, offensive rebounds, total rebounds, blocks made, and dunks).
- Center–Shooting Guard: in five PI (three-point shots attempted, offensive rebounds, total rebounds, blocks made, and dunks).
- Small Forward–Shooting Guard: in one PI (three-point shots attempted).

ANALYSIS OF TECHNICAL-TACTICAL IN THE ACB BASKETBALL LEAGUE ACCORDING TO THE SPECIFIC POSITION AND PHASE COMPETITION

Figure 2

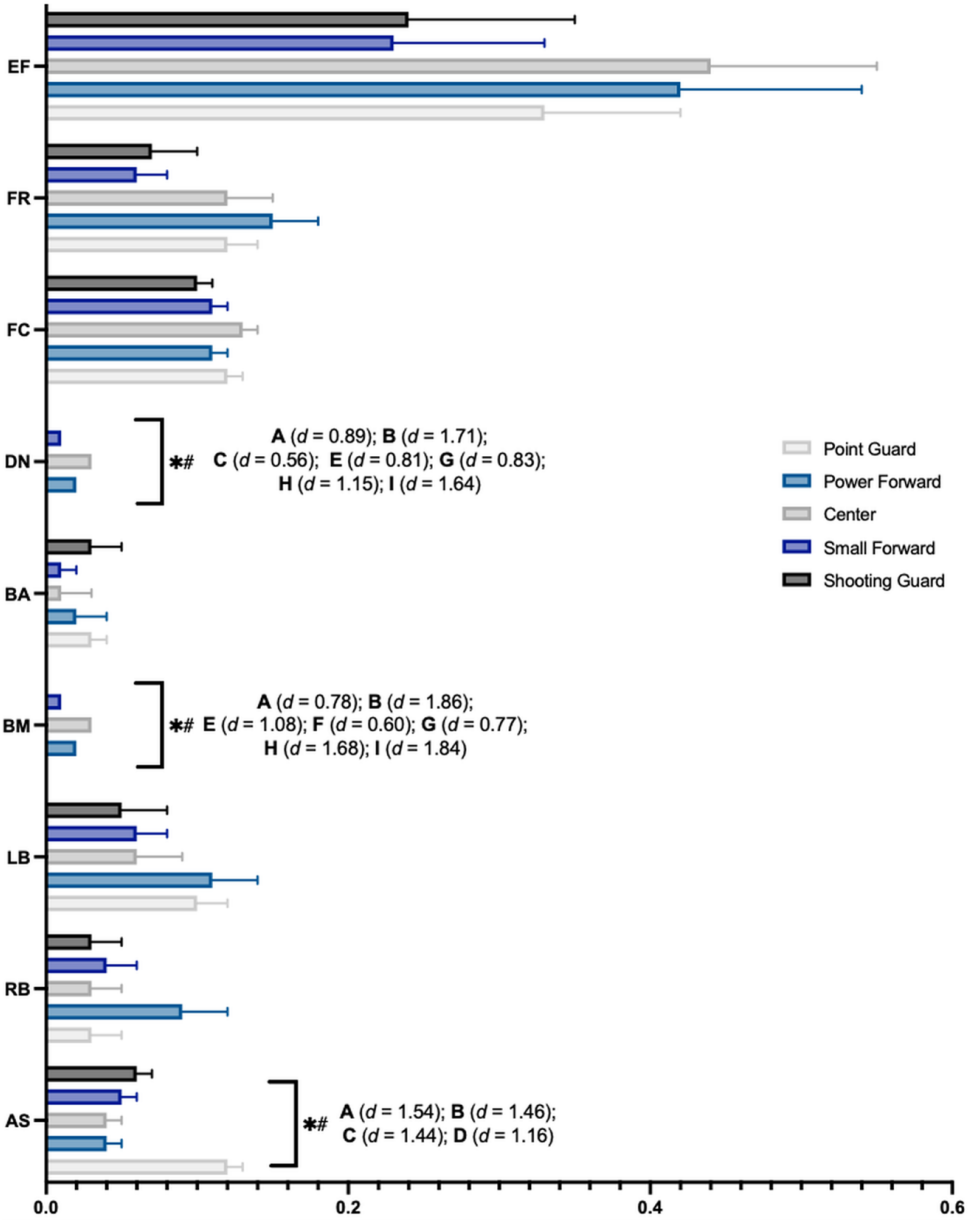
Results of the Mixed Linear Model According to the Fixed Factor Specific Position in the ACB League 2022-23 (Descriptive Results and Bonferroni Post Hoc)



Note. Pts = Points; 2SA = 2-Point Shots Attempted; 2SM = 2-Point Shots Made; 3SA = 3-Point Shots Attempted; 3SM = 3-Point Shots Made; FTA = Free Throws Attempted; FTM = Free Throws Made; TR = Total Rebounds; DR = Defensive Rebounds; OR = Offensive Rebounds; AS = Assists; ST = Steals; LB = Lost Balls; FB = Fast Break; BM = Blocks made; BA = Blocks Against; DN = Dunks; FR = Fouls Received; FC = Fouls Committed; ER = Efficacy Rating; * = $p < .05$; # = improvement of the conditional R^2 with respect to the marginal R^2 in the significant variables; *d* = Cohen´s d. A = differences between Point Guard and Shooting Guard; B = differences between Point Guard and Small Forward; C = differences between Point Guard and Power Forward; D = differences between Point Guard and Center; E = differences between Shooting Guard and Small Forward; F = differences between Shooting Guard and Power Forward; G = differences between Shooting Guard and Center; H = differences between Small Forward and Power Forward; I = differences between Small Forward and Center; J = differences between Power Forward and Center.

Figure 3

Results of the Mixed Linear Model According to the Fixed Factor Specific Position in the ACB League 2022-23 (Descriptive Results and Bonferroni Post Hoc)

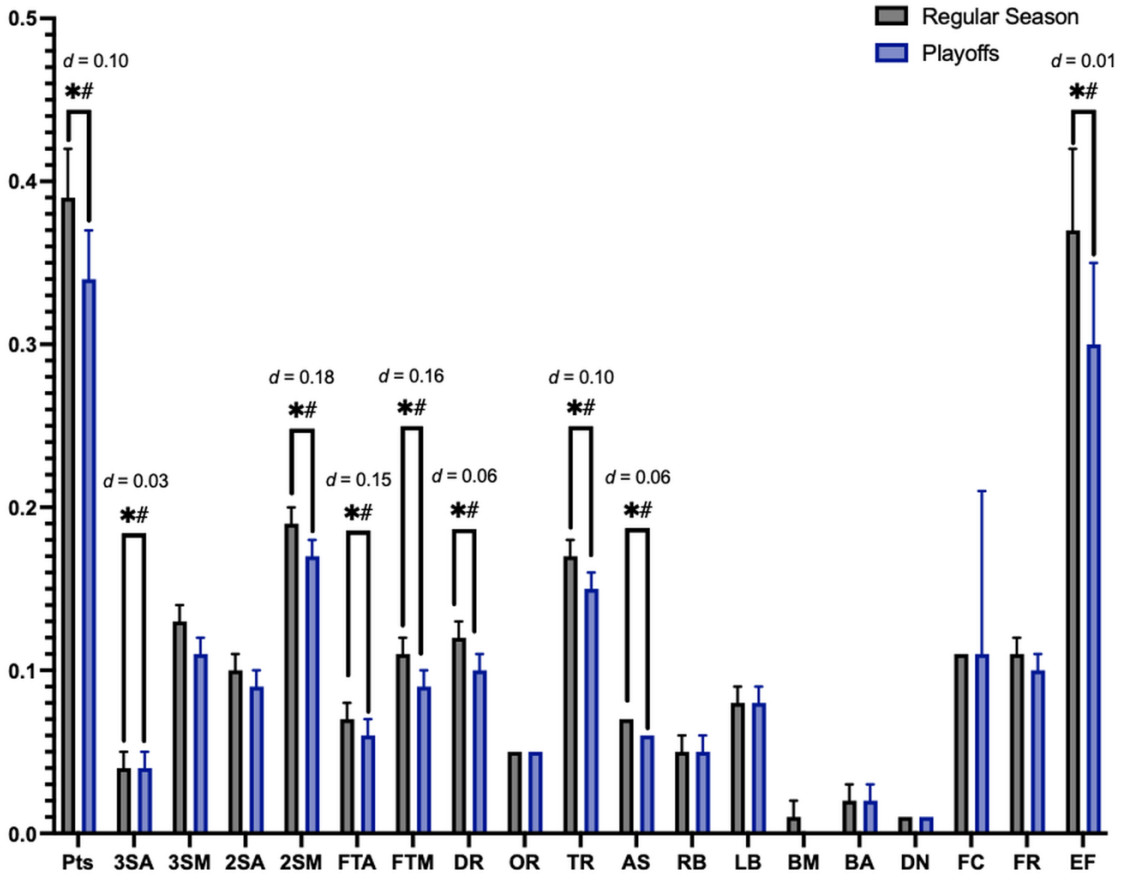


Note. Pts = Points; 2SA = 2-Point Shots Attempted; 2SM = 2-Point Shots Made; 3SA = 3-Point Shots Attempted; 3SM = 3-Point Shots Made; FTA = Free Throws Attempted; FTM = Free Throws Made; TR = Total Rebounds; DR = Defensive Rebounds; OR = Offensive Rebounds; AS = Assists; ST = Steals; LB = Lost Balls; FB = Fast Break; BM = Blocks made; BA = Blocks Against; DN = Dunks; FR = Fouls Received; FC = Fouls Committed; ER = Efficacy Rating; * = $p < .05$; # = improvement of the conditional R^2 with respect to the marginal R^2 in the significant variables; *d* = Cohen´s d. A = differences between Point Guard and Shooting Guard; B = differences between Point Guard and Small Forward; C = differences between Point Guard and Power Forward; D = differences between Point Guard and Center; E = differences between Shooting Guard and Small Forward; F = differences between Shooting Guard and Power Forward; G = differences between Shooting Guard and Center; H = differences between Small Forward and Power Forward; I = differences between Small Forward and Center; J = differences between Power Forward and Center.

In addition, the MLM results reported statistically significant differences between Competition Phases in nine PI (points, three-point shots made, two-point shots attempted, free throws made, free throws attempted, defensive rebounds, total rebounds, assists, and performance index rating) ($p < .05$) (see Figure 4). However, the effect sizes were trivial ($\eta p^2 \leq .01$) and statistical power was low (< .20), suggesting that these results should be interpreted with caution and that a larger sample is required to draw more robust conclusions.

Figure 4

Mixed Linear Model Results According to the Fixed Factor Competition Phase of the 2022–23 ACB League (Descriptive Results and Bonferroni Post Hoc Tests)



Note. Pts = Points; 2SA = 2-Point Shots Attempted; 2SM = 2-Point Shots Made; 3SA = 3-Point Shots Attempted; 3SM = 3-Point Shots Made; FTA = Free Throws Attempted; FTM = Free Throws Made; TR = Total Rebounds; DR = Defensive Rebounds; OR = Offensive Rebounds; AS = Assists; ST = Steals; LB = Lost Balls; FB = Fast Break; BM = Blocks made; BA = Blocks Against; DN = Dunks; FR = Fouls Received; FC = Fouls Committed; ER = Efficacy Rating; * = $p < .05$; # = improvement of the conditional R^2 with respect to the marginal R^2 in the significant variables; *d*= Cohen´s d.

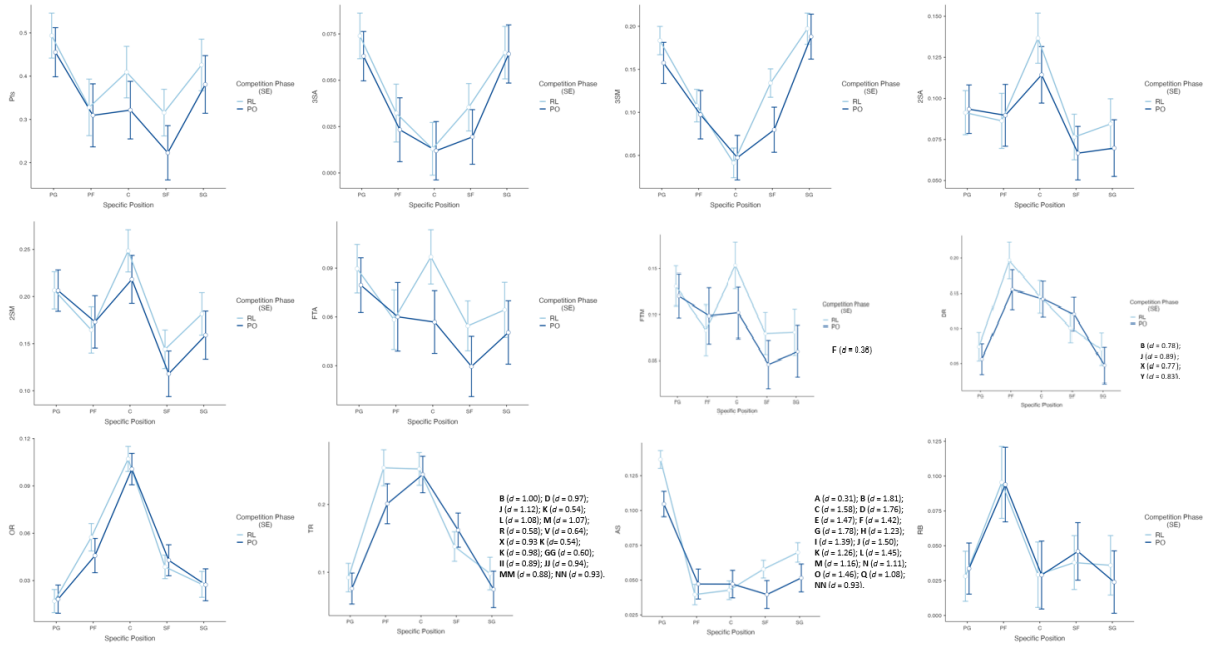
Finally, the MLM results for the Interaction between the fixed factors analyzed were statistically significant in four PI ($p < .05$). As with the Competition Phase, the effect sizes were trivial ($\eta p^2 \leq .01$) and statistical power was low (< .20), so the findings should be interpreted with caution. Bonferroni post hoc tests indicated significant differences in:

- Free throws attempted: between Center Regular Season – Center Playoffs.
- Assists: between Point Guard Regular Season – Point Guard Playoffs, Point Guard Regular Season – Power Forward Playoffs, Point Guard Regular Season – Small Forward Regular Season, Point Guard Regular Season – Small Forward Playoffs, Point Guard Regular Season – Shooting Guard Regular Season, Point Guard Regular Season – Shooting Guard Playoffs, Point Guard Playoffs – Small Forward Regular Season, Point Guard Playoffs – Small Forward Playoffs, and Point Guard Playoffs – Shooting Guard Playoffs.
- Total rebounds: between Power Forward Regular Season – Power Forward Playoffs, Power Forward Regular Season – Small Forward Regular Season, Center Regular Season – Small Forward Regular Season, Center Regular Season – Shooting Guard Regular Season, Center Regular Season – Shooting Guard Playoffs, Center Playoffs – Shooting Guard Regular Season, and Center Playoffs – Shooting Guard Playoffs.
- Assists, total rebounds, and defensive rebounds: between Point Guard Regular Season – Center Regular Season, Point Guard Regular Season – Center Playoffs, Point Guard Playoffs – Power Forward Playoffs, Point Guard Playoffs – Center Regular Season, Point Guard Playoffs – Center Playoffs, Point Guard Regular Season – Power Forward Regular Season, Point Guard Playoffs – Power Forward Regular Season, and Power Forward Regular Season – Shooting Guard Regular Season.

It should be noted that no significant differences were found in the remaining combinations according to the Interaction between fixed factors (p > .05) (see Figures 5–6).

Figure 5

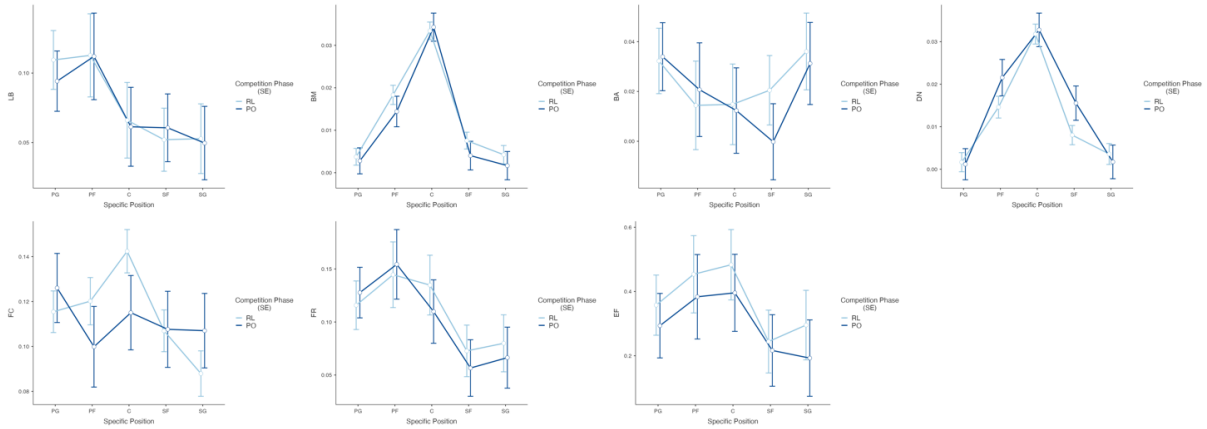
Results of the Linear Mixed Model According to the Interaction of the Simple Factors Analyzed in the 2022–23 ACB League (Descriptive Results and Bonferroni Post Hoc A)



Note. Pts = Points; 2SA = 2-Point Shots Attempted; 2SM = 2-Point Shots Made; 3SA = 3-Point Shots Attempted; 3SM = 3-Point Shots Made; FTA = Free Throws Attempted; FTM = Free Throws Made; TR = Total Rebounds; DR = Defensive Rebounds; OR = Offensive Rebounds; AS = Assists; ST = Steals; LB = Lost Balls; FB = Fast Break; BM = Blocks made; BA = Blocks Against; DN = Dunks; FR = Fouls Received; FC = Fouls Committed; ER = Efficacy Rating; * = p < .05; # = improvement of the conditional R^2 with respect to the marginal R^2 in the significant variables; d = Cohen's d. A = differences between Regular Season Point Guard and Playoffs Point Guard; B = differences between Regular Season Point Guard and Regular Season Shooting Guard; C = differences between Regular Season Point Guard and Playoffs Shooting Guard; D = differences between Regular Season Point Guard and Regular Season Small Forward; E = differences between Regular Season Point Guard and Playoffs Small Forward; F = differences between Regular Season Point Guard and Regular Season Power Forward; G = differences between Regular Season Point Guard and Playoffs Power Forward; H = differences between Regular Season Point Guard and Regular Season Center; I = differences between Regular Season Point Guard and Playoffs Center; J = differences between Playoffs Point Guard and Regular Season Shooting Guard; K = differences between Playoffs Point Guard and Playoffs Shooting Guard; L = differences between Playoffs Point Guard and Regular Season Small Forward; M = differences between Playoffs Point Guard and Playoffs Small Forward; N = differences between Playoffs Point Guard and Regular Season Power Forward; O = differences between Playoffs Point Guard and Playoffs Power Forward; P = differences between Playoffs Point Guard and Regular Season Center; Q = differences between Playoffs Point Guard and Playoffs Center; R = differences between Regular Season Shooting Guard and Playoffs Shooting Guard; S = differences between Regular Season Shooting Guard and Regular Season Small Forward; T = differences between Regular Season Shooting Guard and Playoffs Small Forward; U = differences between Regular Season Shooting Guard and Regular Season Power Forward; V = differences between Regular Season Shooting Guard and Playoffs Power Forward; W = differences between Regular Season Shooting Guard and Regular Season Center; X = differences between Regular Season Shooting Guard and Playoffs Center; Y = differences between Playoffs Shooting Guard and Regular Season Small Forward; Z = differences between Playoffs Point Guard and Playoffs Small Forward; AA = differences between Playoffs Shooting Guard and Regular Season Power Forward; BB = differences between Playoffs Point Guard and Playoffs Power Forward; CC = differences between Playoffs Shooting Guard and Regular Season Center; DD = differences between Playoffs Point Guard and Playoffs Center; EE = differences between Regular Season Small Forward and Playoffs Small Forward; FF = differences between Regular Season Small Forward and Regular Season Power Forward; GG = differences between Regular Season Small Forward and Playoffs Power Forward; HH = differences between Regular Season Small Forward and Regular Season Center; II = differences between Regular Season Small Forward and Playoffs Center; JJ = differences between Playoffs Small Forward and Regular Season Power Forward; KK = differences between Playoffs Small Forward and Playoffs Power Forward; LL = differences between Playoffs Small Forward and Regular Season Center; MM = differences between Playoffs Small Forward and Playoffs Center; NN = differences between Regular Season Power Forward and Playoffs Power Forward; OO = differences between Regular Season Power Forward and Regular Season Center; PP = differences between Regular Season Power Forward and Playoffs Center; QQ = differences between Playoffs Power Forward and Regular Season Center; RR = differences between Playoffs Power Forward and Playoffs Center; SS = differences between Regular Season Center and Playoffs Center.

Figure 6

Results of the Linear Mixed Model According to the Interaction of the Simple Factors Analyzed in the 2022–23 ACB League (Descriptive Results and Bonferroni Post Hoc B)



Note. Pts = Points; 2SA = 2-Point Shots Attempted; 2SM = 2-Point Shots Made; 3SA = 3-Point Shots Attempted; 3SM = 3-Point Shots Made; FTA = Free Throws Attempted; FTM = Free Throws Made; TR = Total Rebounds; DR = Defensive Rebounds; OR = Offensive Rebounds; AS = Assists; ST = Steals; LB = Lost Balls; FB = Fast Break; BM = Blocks made; BA = Blocks Against; DN = Dunks; FR = Fouls Received; FC = Fouls Committed; ER = Efficacy Rating; * = $p < .05$; # = improvement of the conditional R^2 with respect to the marginal R^2 in the significant variables; *d* = Cohen's d. A = differences between Regular Season Point Guard and Playoffs Point Guard; B = differences between Regular Season Point Guard and Regular Season Shooting Guard; C = differences between Regular Season Point Guard and Playoffs Shooting Guard; D = differences between Regular Season Point Guard and Regular Season Small Forward; E = differences between Regular Season Point Guard and Playoffs Small Forward; F = differences between Regular Season Point Guard and Regular Season Power Forward; G = differences between Regular Season Point Guard and Playoffs Power Forward; H = differences between Regular Season Point Guard and Regular Season Center; I = differences between Regular Season Point Guard and Playoffs Center; J = differences between Playoffs Point Guard and Regular Season Shooting Guard; K = differences between Playoffs Point Guard and Playoffs Shooting Guard; L = differences between Playoffs Point Guard and Regular Season Small Forward; M = differences between Playoffs Point Guard and Playoffs Small Forward; N = differences between Playoffs Point Guard and Regular Season Power Forward; O = differences between Playoffs Point Guard and Playoffs Power Forward; P = differences between Playoffs Point Guard and Regular Season Center; Q = differences between Playoffs Point Guard and Playoffs Center; R = differences between Regular Season Shooting Guard and Playoffs Shooting Guard; S = differences between Regular Season Shooting Guard and Regular Season Small Forward; T = differences between Regular Season Shooting Guard and Playoffs Small Forward; U = differences between Regular Season Shooting Guard and Regular Season Power Forward; V = differences between Regular Season Shooting Guard and Playoffs Power Forward; W = differences between Regular Season Shooting Guard and Regular Season Center; X = differences between Regular Season Shooting Guard and Playoffs Center; Y = differences between Playoffs Shooting Guard and Regular Season Small Forward; Z = differences between Playoffs Point Guard and Playoffs Small Forward; AA = differences between Playoffs Shooting Guard and Regular Season Power Forward; BB = differences between Playoffs Point Guard and Playoffs Power Forward; CC = differences between Playoffs Shooting Guard and Regular Season Center; DD = differences between Playoffs Point Guard and Playoffs Center; EE = differences between Regular Season Small Forward and Playoffs Small Forward; FF = differences between Regular Season Small Forward and Regular Season Power Forward; GG = differences between Regular Season Small Forward and Playoffs Power Forward; HH = differences between Regular Season Small Forward and Regular Season Center; II = differences between Regular Season Small Forward and Playoffs Center; JJ = differences between Playoffs Small Forward and Regular Season Power Forward; KK = differences between Playoffs Small Forward and Playoffs Power Forward; LL = differences between Playoffs Small Forward and Regular Season Center; MM = differences between Playoffs Small Forward and Playoffs Center; NN = differences between Regular Season Power Forward and Playoffs Power Forward; OO = differences between Regular Season Power Forward and Regular Season Center; PP = differences between Regular Season Power Forward and Playoffs Center; QQ = differences between Playoffs Power Forward and Regular Season Center; RR = differences between Playoffs Power Forward and Playoffs Center; SS = differences between Regular Season Center and Playoffs Center.

Discussion

This research aimed to analyze the technical-tactical variables based on the Specific Position and Competition Phase of basketball players in the 2022–23 ACB League. The findings provide relevant evidence on how performance characteristics vary depending on Specific Position and Competition Phase, offering practical implications for both coaches and sports analysts. According to the Specific Positions, differences were observed between the Centers and Power Forwards compared to other Specific Positions. Regarding the Competition Phase, the differences observed between the Regular Phase and the Playoff Phase indicated a higher number of actions in the first phase of the championship. Finally, the Interaction between these fixed factors showed significant differences, primarily in assists and total rebounds, specifically between the Point Guards, Power Forwards and Centers in both Competition Phases. The study's results emphasize the importance of considering both the Specific Position and Competition Phase in analyzing the technical-tactical performance of basketball.

Significant differences were identified in nine PI based on the Specific Positions of the analyzed league. These differences highlight the particularities of the technical-tactical performance of Centers and Power Forwards in comparison to other roles such as Point Guards, Shooting Guards and Small Forwards. These findings are consistent with previous studies that emphasize that technical-tactical specialization is inherent to each position in professional basketball (Escudero-Tena et al., 2021). Sampaio et al. (2006) described clearly differentiated profiles for different Specific Positions in three leagues, highlighting that Point Guards and Shooting Guards tend to make more assists and three-pointers, although they also have more turnovers. On the other hand, Centers excel in blocks, offensive rebounds, two-point shots, free throws and fouls. However, the role definitions for Power Forwards and Small Forwards were less clear, suggesting a more versatile and less

specialized function compared to interior and exterior positions. The results of this study strengthen previous evidence regarding the characteristic profiles of each position in competitive basketball, aligning with research from various contexts and leagues. Furthermore, they highlight the specialization of positions, as interior positions like Centers focus on key actions near the basket, such as blocks, rebounds and close-range shots. Meanwhile, exterior positions like Point Guards and Shooting Guards stand out for their involvement in playmaking, with a higher volume of long-distance shots, assists and ball recoveries, demonstrating their strategic role in the team's offensive development.

Similarly, García-Rubio et al. (2019) observed consistent patterns in the technical-tactical performance of Point Guards and Centers in two youth player tournaments (Adidas Next Generation Tournament), once again highlighting the lack of a precise definition for Small Forwards. This finding reflects a polyvalent profile previously noted in the literature, where these positions combine aspects of both interior and exterior play, making it difficult to strictly characterize their performance (Gómez et al., 2007; Ibáñez, Gómez-Carmona, et al., 2024). In this context, while certain positions have a clearly defined specialization, Power Forwards and, specifically in this study, Small Forwards lack a clear trend. These positions stand out for their flexibility and multifaceted nature, adapting to intermediate roles based on the team's needs. This versatility allows them to contribute both in playmaking and actions near the basket. These differences highlight how spatial context and tactical responsibilities influence performance patterns.

Each player profile on a basketball team is defined by the execution of specific actions that differentiate them from their teammates as well as from players in other roles. These differences are determined not only by the technical-tactical functions associated with each position but also by the competitive context and the results obtained in the games. Previous studies, such as the one by Escudero-Tena et al. (2021), have shown that players from winning teams tend to have significantly more positive PI compared to players from losing teams, even when they belong to the same role profile. These findings suggest that, in addition to individual capabilities, collective performance and effectiveness in group interactions play a key role in the outcome. For example, Point Guards on winning teams typically record better statistics in assists and fewer turnovers, while Centers excel in defensive rebounds and interior game efficiency. Other studies reinforce this idea, such as Lorenzo et al. (2010), who found that players from winning teams, regardless of their role, showed higher success rates in key actions such as shooting under pressure, blocking and ball recoveries. The findings of this study highlight the need to design training programs and game strategies that not only enhance the individual technical skills of each player according to their profile but also optimize collective performance in competitive situations. This involves working on aspects such as tactical cohesion, decision-making and adaptability to different types of opponents, ensuring that the team is prepared to respond effectively to the demands of the game.

On the other hand, this study identified significant differences in nine PI according to the Phase of Competition in the 2022–23 ACB League season. During the Regular Phase, a higher number of actions were observed, characterized by a more offensive approach and greater variety of actions. This was attributed to the lower pressure associated with league games, compared to the Playoffs, where greater defensive intensity and more conservative tactics predominated, alongside a reduction in possessions, reflecting teams' priority to minimize errors and maximize efficiency. A similar analysis conducted by Ibáñez et al. (2019) in knockout competitions such as the *Copa del Rey* highlighted that the most frequent attacks were positional (33.4%), executed between the 12th and 17th seconds of possession, followed by long attacks (18.7%) between the 18th and 24th seconds. Although these types of attacks did not always guarantee effective shots, they often ended in personal fouls, reinforcing the tactical conservative approach characteristic of these matches. Additionally, Ibáñez et al. (2003) identified that teams ranked higher in a World Championship tended to employ fewer ball possessions, compensated by a higher offensive efficiency coefficient. Similarly, García et al. (2010) observed that elite teams in senior men's and women's World Championships were distinguished by a playing style based on fewer possessions and greater offensive efficiency, in contrast to developing teams, such as those in junior World Championships. The results of this study confirm that playing styles vary across Competition Phases. In the Regular Phase of the 2022–23 season, a greater number of actions were observed due to a more offensive approach driven by less competitive pressure. In contrast, during the Playoffs, competition intensified, resulting in a greater balance in the quality of teams in a more demanding environment, which was associated with a decrease in the number of actions per game.

Similarly, García et al. (2013) highlighted that winning teams performed a greater number of actions compared to losing teams, particularly in non-close games. They also observed that the dynamics of the game changed depending on the type of match. In non-close games, both in the Regular Phase and the Playoffs, the winning teams maintained a clear superiority.

However, in close games, particularly in the final stages, the performance between winning and losing teams tended to balance out. Fernández-Cortés et al. (2021) identified that during the Playoffs, the collective offensive play was favored by the contribution of the Point Guards through assists. In addition, defensive play was strengthened by the Pivots' rebounds and the intensity of the forwards through steals, highlighting the differentiated strategic focus of teams during these decisive phases. During the 2022–23 ACB League season, the results obtained can be explained by a lower defensive pressure during the Regular Phase, which allowed for a more fluid game and a greater number of technical-tactical actions. This coincides with the idea that in non-close games, dominant teams perform more actions. On the other hand, during the Playoffs, the increase in competitive intensity and defensive pressure likely contributed to a reduction in the total number of actions, which aligns with the trend in close games, where the performance between winning and losing teams tended to balance out.

Moreover, the results of this study highlight the importance of adjusting technical-tactical strategies according to the specific characteristics of each Competition Phase. This importance has been demonstrated in previous studies that emphasize the need to adapt strategies based on context, league characteristics, gender and other factors (Ramírez-Arroyo et al., 2022). As previously mentioned, basketball is a sport composed of multiple elements and alongside technical-tactical factors, physical aspects must also be considered. Ferioli et al. (2021) state that during the Regular Phase, professional basketball players experience greater internal load compared to the Playoffs, but they face a higher weekly load during the later stages of the competition. However, daily load remains constant in both periods. This adaptive approach demonstrates that basketball responds to physical and technical-tactical demands throughout the season, allowing teams to maximize their performance and increase their likelihood of success during the championship. Therefore, coaching staff are responsible for analyzing and prioritizing strategies according to the Competition Phase. During the Regular Phase, coaches might prioritize developing a more fluid and offensive style of play, taking advantage of the lower competitive pressure to diversify technical-tactical actions and experiment with different gameplay approaches. In contrast, the Playoffs require a strategic focus on optimizing tactical efficiency and strengthening defense in high-pressure situations and with increased competitive intensity.

The Interaction between the fixed factors revealed significant differences, particularly in assists and total rebounds, with more pronounced differences among Point Guards, Power Forwards, and Centers in both Competition Phases. This suggests that the specific contributions of these positions are strongly influenced by the competitive context, highlighting the need to adjust gameplay strategies and tactical responsibilities according to the specific demands of each phase. Previous studies, such as that of Ibáñez et al. (2023), support this assertion by indicating that position in basketball determines players' contributions during matches. They also established a close relationship between physical profiles and PI, demonstrating that achieving certain performance outcomes was conditioned by each athlete's physical preparation level. This physical level also influenced performance according to position and stage of the season, being higher during the initial phase. Additionally, Ibáñez, Gantois, et al. (2024) emphasized the importance of personalizing training according to positions as a fundamental element for player development, particularly during formative stages. Together, these interactions reinforce the importance of an adaptive approach in training design and strategic planning, allowing for more efficient and specific preparation that will maximize player performance in each competitive context.

These results reflect how Specific Positions tend to adjust their performance based on the demands of each phase, which may be influenced by strategic decisions made by the coach and the characteristics of the opponent. As mentioned earlier, the higher number of actions recorded during the Regular Season could be explained by the variability in the quality of the teams faced, while the Playoffs, being more competitive, feature more balanced matches with less room for error. This generates higher pressure, which may lead to tactical or technical mistakes, reducing opportunities for effectively executing actions. These results are supported by Giovanini et al. (2021), who emphasized that the key PI in Regular Season games were defensive rebounds, assists and three-pointers. However, as the point difference increased, more PI were able to discriminate between winners and losers in this phase. In contrast, in the Playoffs, winning teams performed defensive rebounds and assists, with three-point shots contributing in close games and two-point shots in more balanced matches.

Finally, these findings highlight the need to adapt both training and game tactics to the specific variations of each Competition Phase and the demands of each Specific Position. This allows for tailored sports planning to enhance performance and reduce injuries (Salazar et al., 2020). Additionally, it reflects how teams must adjust their performance based on the requirements of each phase of the competition, thus indicating the necessity to modify training according

to different stages in order to optimize player performance (Li et al., 2024). These findings are crucial for coaches to plan training programs tailored to the specific characteristics of their players for each phase, thereby optimizing both individual and collective performance. Also, these results may guide different tactical approaches depending on the league context or team composition. In competitions with a large number of games or lower competitive pressure, coaches might explore alternative offensive strategies. However, in international tournaments or during the Playoffs, greater emphasis should be placed on defensive effectiveness and decision-making under pressure. Furthermore, player profiles within the team characterized by strong physical attributes, strict tactical roles, or conversely, more versatile functions may condition the most effective strategies. Therefore, these aspects reinforce the need to design training tasks and game strategies that align with the specific context and the human resources available within the club.

Conclusions

Based on the results of this study, it can be concluded that each Specific Position in Basketball has a distinctive role and behavior during a tournament, reflecting the specialization and particular demands of each playing position. In the case of the 2022–23 ACB League, Point Guards were characterized by scoring more points, completing more three-pointers and providing more assists, standing out as the most offensive position. Power Forwards executed the most defensive rebounds, steals, turnovers and fouls received, playing a key defensive role and fighting for ball control. Centers made more 2-Point shots attempted, 2-Point shots made, converted more free throws and collected more offensive rebounds, total rebounds, blocks and dunks, earning better ratings, making them fundamental players in the paint and interior game. Shooting Guards, due to their more external position, 3-Point shots made and had more turnovers. Finally, Small Forwards were not characterized by any specific action, confirming their multifaceted role, contributing evenly across various phases of the game.

Moreover, based on the results of the analysis of each Competition Phase of the 2022–23 ACB League season, it can be concluded that each phase presents different behaviors. These differences can be attributed to several factors, such as the use of different game strategies implemented by coaches, the quality of the opponents faced in the later stages of a tournament, the type of match and the players' physical level. These elements can influence both collective and individual performance, conditioning the type and frequency of actions performed depending on the Competition Phase.

Lastly, it was evident that the behavior of Specific Positions may evolve according to the type and number of actions performed depending on the Competition Phase. In the case of the analyzed ACB League season, Shooting Guards and Power Forwards maintained a consistent playing style across phases, showing little variability in their actions. Point Guards and Centers were the positions that most varied their playing style between phases, demonstrating their flexibility and adaptability to the demands of each Competition Phase. On the other hand, Small Forwards did not stand out in any specific action in any phase, reaffirming their versatile function in Basketball. Furthermore, during the Regular Season, the highest number of actions was recorded across all Specific Positions, likely due to the quality of opposition and the type of match, as this phase is characterized by less pressure. In conclusion, the tactical and technical behavior in Basketball is influenced by both the characteristics of each Specific Position and the different demands of the Competition Phases.

Practical Applications

At a general level, these findings highlight the value of performance analysis, both post-match and post-season, as a tool to design strategies based on the strengths of each Specific Position while considering the tactical adjustments required across Competition Phases.

More specifically, training tasks should be adapted to both the strengths and the specific needs of each playing position, promoting a more targeted technical–tactical development. For Point Guards, training should emphasize improving passing efficiency and reduce turnovers. Centers should focus on enhancing rebounding, screening, and effectiveness in actions near the basket. Finally, given the characteristic versatility of Power Forwards and Small Forwards, mixed training tasks that integrate both inside and outside actions are recommended, with the aim of reinforcing their ability to adapt to the team's needs.

In addition, it is crucial to adapt these tasks to the demands of each Competition Phase. During the Regular Season, greater emphasis may be placed on technical and physical development, promoting a higher volume of offensive actions and greater tactical variety. In contrast, during the Playoffs, priority should be given to the quality of actions alongside a more refined strategic approach that accounts for the high competitive pressure, with the aim of enhancing action quality, defensive efficiency, and adaptability in close games. This should be implemented in conjunction with flexible strategies that can be adapted to the competition context, enabling the team to respond effectively to different playing styles and opponents' characteristics.

However, although the findings of this study provide valuable tools for coaches and technical staff seeking to optimize the preparation and management of high-level basketball teams, it is important to note that these results should not be generalized to basketball as a whole, since the analysis focused on a specific league, a single season, one type of competition, and only one gender.

Future Perspectives

Future research could expand these findings by exploring contextual variables that allow for the identification of how the observed differences vary based on other factors such as other leagues, competitive levels, playing styles, physical characteristics of the players and the gender of the participants. This approach would help identify patterns and contribute to optimizing technical-tactical preparation, broadening the knowledge about the dynamics of professional basketball.

Financing

This research was partially funded by the Research Group Support Grant (GR24133). It was co-funded at 85% by the European Union through the European Regional Development Funds (ERDF), and by the Regional Government of Extremadura (Department of Education, Science, and Vocational Training). The Managing Authority is the Ministry of Finance of Spain.

Ethics Committee Statement

Not applicable since the study analyzed sports statistics from the ACB League, 2022-2023 season.

Conflict of Interest

The funding entities or institutions had no influence on the study design, data analysis, or interpretation of the results.

Funding

This study was co-funded by the Regional Department of Economy and Infrastructure of the Government of Extremadura (Spain) through the European Funds of Regional Development of the European Union (dossier number: GR24XXX).

Author's Contributions

Conceptualization S.L.A., C.R., M.S.A., & S.J.I.; Methodology S.L.A., C.R. & S.J.I.; Software S.L.A. & C.R.; Validation S.L.A., M.S.A. & S.J.I.; Formal Analysis S.L.A. & M.S.A.; Investigation S.L.A., C.R. & S.J.I; Resources S.L.A., C.R. & M.S.A.; Data Curation S.L.A., C.R. & S.J.I.; Writing – Original Draft S.L.A, C.R., & M.S.A.; Writing – Review & Editing S.L.A., M.S.A., & S.J.I.; Visualization S.L.A & S.J.I; Supervision S.L.A. & S.J.I.; Project Administration S.J.I.; Funding Acquisition S.J.I. All authors have read and agreed to the published version of the manuscript.

Data Availability Statement

The data are available on the official ACB League website (https://www.acb.com/club/plantilla/id/2/temporada_id/2022).

Acknowledgements

To the Grupo de Optimización del Entrenamiento y Rendimiento Deportivo (GOERD), for their valuable collaboration that made this study possible.

References

Batterham, A. M., & Hopkins, W. G. (2006). Making meaningful inferences about magnitudes. *International Journal of Sports Physiology and Performance*, *1*(1), 50–57. https://doi.org/10.1123/ijspp.1.1.50

Becerra-Muñoz, W., Wang, J., & Pérez-Tejero, J. (2023). Women's wheelchair basketball lineup analysis at the Tokyo 2020 Paralympic Games: Game-related statistics explaining team sport performance. *Frontiers in Sports and Active Living*, *5*, 1281865. https://doi.org/10.3389/fspor.2023.1281865

Borms, J. (2008). *Directory of sport science (5th ed.)*. Human Kinetics.

Bustamante-Sánchez, Á., & Jiménez-Saiz, S. L. (2024). Game location effect in game-related statistics and pre-shot combination differences between winners and losers during the basketball ACB COVID-19 season. *PLOS ONE*, *19*(7), Article e0303908. https://doi.org/10.1371/journal.pone.0303908

Cabarkapa, D., Cabarkapa, D. V., & Fry, A. C. (2024). Game-related statistics that discriminate winning from losing in NCAA Division I men's basketball. *Frontiers in Sports and Active Living*, *6*, 1387918. https://doi.org/10.3389/fspor.2024.1387918

Canuto, S. C., & de Almeida, M. B. (2022). Determinants of basketball match outcome based on game-related statistics: A systematic review and meta-analysis. *European Journal of Human Movement*, *48*, 4–20. https://doi.org/10.21134/eurjhm.2022.48.2

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences (2nd ed.)*. Lawrence Erlbaum Associates.

Conte, D., Tessitore, A., Gjullin, A., Mackinnon, D., Lupo, C., & Favero, T. (2018). Investigating the game-related statistics and tactical profile in NCAA Division I men's basketball games. *Biology of Sport*, *35*(2), 137–143. https://doi.org/10.5114/biolsport.2018.71602

Correa Morales, J. C., & Salazar Uribe, J. C. (2016). *Introducción a los modelos mixtos*. Universidad Nacional de Colombia.

Courel-Ibáñez, J., Suárez-Cadenas, E., Ortega Toro, E., & Cárdenas Vélez, D. (2018). Training proposal for the inside game in basketball. *Apunts. Educación Física y Deportes*, *133*, 98–115. https://doi.org/10.5672/apunts.2014-0983.es.(2018/3).133.07

Doğan, İ., Işık, Ö., & Ersöz, Y. (2016). Examining the Turkish men's professional basketball team's success according to game-related statistics with discriminant analysis. *International Journal of Performance Analysis in Sport*, *16*(3), 829–836. https://doi.org/10.1080/24748668.2016.11868931

Escudero-Tena, A., Rodríguez-Galán, V., García-Rubio, J., & Ibáñez, S. J. (2021). Influence of the specific position on the final result of the match in professional basketball. *Revista de Psicología del Deporte*, *30*(3), 19–24. https://www.researchgate.net/publication/357555704_Influence_of_the_Specific_Position_on_the_Final_Result_of_the_Match_in_Professional_Basketball

Ferioli, D., Rampinini, E., Bosio, A., La Torre, A., Azzolini, M., & Coutts, A. J. (2018). The physical profile of adult male basketball players: Differences between competitive levels and playing positions. *Journal of Sports Sciences*, *36*(22), 2567–2574. https://doi.org/10.1080/02640414.2018.1469241

Ferioli, D., Scanlan, A. T., Conte, D., Tibiletti, E., & Rampinini, E. (2021). The business end of the season: A comparison between playoff and regular-season workloads in professional basketball players. *International Journal of Sports Physiology and Performance*, *16*(5), 655–662. https://doi.org/10.1123/ijspp.2020-0405

Fernández-Cortés, J. A., Mandly, M. G., García-Rubio, J., & Ibáñez, S. J. (2021). Contribution of professional basketball players according to the specific position and the competition phase. *E-Balonmano.com: Revista de Ciencias del Deporte*, *17*(3), 223–232. https://doi.org/10.17398/1885-7019.17.223

Field, A. P. (2024). *Discovering statistics using IBM SPSS Statistics (6th ed.)*. SAGE.

García, F., Vázquez-Guerrero, J., Castellano, J., Casals, M., & Schelling, X. (2020). Differences in physical demands between game quarters and playing positions on professional basketball players during official competition. *Journal of Sports Science and Medicine*, *19*(2), 256–263. https://www.researchgate.net/publication/339508020_Physical_Demands_between_Game_Quarters_and_Playing_Positions_on_Professional_Basketball_Players_during_Official_Competition

García, J., Ibáñez, S. J., Cañadas, M., & Feu, S. (2010). Análisis de los campeonatos del mundo de baloncesto masculino (2002 y 2006): Diferencias entre jugadores con diferentes niveles de experiencia (sénior y júnior). *Motricidad. European Journal of Human Movement*, *24*, 133–145. https://www.researchgate.net/publication/46817830_ANALISIS_DE_LOS_CAMPEONATOS_DEL_MUNDO_DE_BALONCESTO_MASCULINO_2002_Y_2006_DIFERENCIAS_ENTRE_JUGADORES_CON_DIFERENTES_NIVELES_DE_EXPERIENCIA_SENIOR_Y_JUNIOR

García, J., Ibáñez, S. J., Gómez, M. A., & Sampaio, J. (2014). Basketball game-related statistics discriminating ACB League teams according to game location, game outcome, and final score differences. *International Journal of Performance Analysis in Sport*, *14*(2), 443–452. https://doi.org/10.1080/24748668.2014.11868733

García, J., Ibáñez, S. J., Martínez de Santos, R., Leite, N., & Sampaio, J. (2013). Identifying basketball performance indicators in regular season and playoff games. *Journal of Human Kinetics*, *36*(1), 161–168. https://doi.org/10.2478/hukin-2013-0016

García-Rubio, J., Courel-Ibáñez, J., González-Espinosa, S., & Ibáñez, S. J. (2019). La especialización en baloncesto: Análisis de perfiles de rendimiento en función del puesto específico en etapas de formación. *Revista de Psicología del Deporte*, *28*(1), 132–139. https://archives.rpd-online.com/article/download/v28-n3-garcia-courel-gonzalez-etal/2771-14012-1-PB.pdf

Gasperi, L., Conte, D., Leicht, A., & Gómez-Ruano, M. Á. (2020). Game-related statistics discriminate national and foreign players according to playing position and team ability in the women's basketball EuroLeague. *International Journal of Environmental Research and Public Health*, *17*(15), 5507. https://doi.org/10.3390/ijerph17155507

Giovanini, B., Conte, D., Ferreira-Junior, A., & Nascimento, V. B. (2021). Assessing the key game-related statistics in Brazilian professional basketball according to season phase and final score difference. *International Journal of Performance Analysis in Sport*, *21*(2), 295–305. https://doi.org/10.1080/24748668.2021.1881358

Gomes, J. H., Mendes, R. R., de Almeida, M. B., Zanetti, M. C., Leite, G. D. S., & Figueira Júnior, A. J. (2017). Relationship between physical fitness and game-related statistics in elite professional basketball players: *Regular season vs. playoffs. Motriz: Revista de Educação Física*, *23*(2), e101626. https://doi.org/10.1590/S1980-6574201700020004

Gómez, M. A., Lorenzo, A., Ortega, E., Sampaio, J., & Ibáñez, S. J. (2007). Differences between women's basketball guards, forwards, and centres through game-related statistics. *Cultura, Ciencia y Deporte*, *2*(6), 139–144. https://doi.org/10.12800/ccd.v2i6.182

Gómez, M. A., Lorenzo, A., Ortega, E., Sampaio, J., & Ibáñez, S. J. (2009). Game-related statistics discriminating between starters and nonstarters players in Women's National Basketball Association League (WNBA). *Journal of Sports Science and Medicine*, *8*(2), 278–283. https://www.researchgate.net/publication/26623237_Game_Related_Statistics_Discriminating_Between_Starters_and_Nonstarters_Players_in_Women'S_National_Basketball_Association_League_WNBA

Gómez, M. A., Lorenzo, A., Sampaio, J., & Ibáñez, S. J. (2006). Differences between winning and losing teams in women's basketball game-related statistics. *Journal of Human Movement Studies*, *51*(5), 357–369. https://www.researchgate.net/publication/255172750_Differences_in_game-related_statistics_between_winning_and_losing_teams_in_women's_basketball

Gómez, M. A., Lorenzo, A., Sampaio, J., Ibáñez, S. J., & Ortega, E. (2008). Game-related statistics that discriminated winning and losing teams from the Spanish men's professional basketball teams. *Collegium Antropologicum*, *32*(2), 451–456. https://www.researchgate.net/publication/23223253_Game-related_statistics_that_discriminated_winning_and_losing_teams_from_the_Spanish_Men's_Professional_Basketball_Teams

Hughes, M., Franks, I., & Dancs, H. (2020). *Essentials of performance analysis in sport (3rd ed.)*. Routledge.

Ibáñez, S. J., & Feu, S. (2021). Evolución de la investigación académica sobre baloncesto. In S. J. Ibáñez & S. Feu (Eds.), *Una mirada hacia la investigación e innovación sobre baloncesto* (pp. 13–32). Servicio de Publicaciones de la Universidad de Extremadura.

Ibáñez, S. J., Gantois, P., Rico-González, M., García-Rubio, J., & Ortega, J. P. (2024). Profile of accelerations and decelerations in young basketball players. *Applied Sciences*, *14*(10), 4120. https://doi.org/10.3390/app14104120

Ibáñez, S. J., García-Rubio, J., Rodríguez-Serrano, D., & Feu, S. (2019). Development of a knockout competition in basketball: A study of the Spanish Copa del Rey. *Frontiers in Psychology*, *10*, 2457. https://doi.org/10.3389/fpsyg.2019.02457

Ibáñez, S. J., Gómez-Carmona, C. D., López-Sierra, P., & Feu, S. (2024). Intensity thresholds for external workload demands in basketball: Is individualization based on playing positions necessary? *Sensors*, *24*(4), Article 1146. https://doi.org/10.3390/s24041146

Ibáñez, S. J., González-Espinosa, S., Feu, S., & García-Rubio, J. (2018). Basketball without borders? Similarities and differences among continental basketball championships. *RICYDE. Revista Internacional de Ciencias del Deporte*, *14*(51), 42–54. https://doi.org/10.5232/ricyde2018.05104

Ibáñez, S. J., Piñar, M. I., García, D., & Mancha-Triguero, D. (2023). Physical fitness as a predictor of performance during competition in professional women's basketball players. *International Journal of Environmental Research and Public Health*, *20*(2), 988. https://doi.org/10.3390/ijerph20020988

Ibáñez, S. J., Sampaio, J., Feu, S., Lorenzo, A., Gómez, M. A., & Ortega, E. (2008). Basketball game-related statistics that discriminate between teams' season-long success. *European Journal of Sport Science*, *8*(6), 369–372. https://doi.org/10.1080/17461390802261470

Ibáñez, S. J., Sampaio, J., Sáenz-López, P., Giménez, J., & Janeira, M. A. (2003). Game statistics discriminating the final outcome of Junior World Basketball Championship matches (Portugal 1999). *Journal of Human Movement Studies*, *45*(1), 1–19. https://www.researchgate.net/publication/233869837_Game_statistics_discriminating_the_final_outcome_of_Junior_World_Basketball_Championship_matches_Portugal_1999

Lago-Peñas, C. (2008). El análisis del rendimiento en los deportes de equipo: Algunas consideraciones metodológicas. *Acción Motriz*, *1*(1), 41–58. https://www.researchgate.net/publication/398098776_EL_ANALISIS_DEL_RENDIMIENTO_EN_LOS_DEPORTES_DE_EQUIPO_ALGUNAS_CONSIDERACIONES_METODOLOGICAS

Li, G., Shang, L., Qin, S., & Yu, H. (2024). The impact of internal and external loads on player performance in Chinese Basketball Association. *BMC Sports Science, Medicine and Rehabilitation*, *16*, 194. https://doi.org/10.1186/s13102-024-00983-6

Liga Endesa. (2023). *Liga Endesa*. https://www.acb.com/club/plantilla/id/2/temporada_id/2022

Lorenzo, A., Gómez, M. A., Ortega, E., Ibáñez, S. J., & Sampaio, J. (2010). Game-related statistics which discriminate between winning and losing under-16 male basketball games. *Journal of Sports Science and Medicine*, *9*(4), 664–668. https://www.researchgate.net/publication/258035968_Game_Related_Statistics_Which_Discriminate_Between_Winning_and_Losing_Under-16_Male_Basketball_Games

Madarame, H. (2018). Basketball game-related statistics that discriminate among continental championships for under-18 women. *Sports*, *6*(4), 114. https://doi.org/10.3390/sports6040114

Marcelino, R., Sampaio, J., & Mesquita, I. (2011). Research on the game analysis: From static to dynamic modeling. *Revista Portuguesa de Ciências do Desporto*, *11*(1), 481–499. https://www.researchgate.net/publication/233819248_Research_on_the_game_analysis_from_static_to_dynamic_modeling_Investigacao_centrada_na_Analise_do_Jogo_da_modelacao_estatica_a_modelacao_dinamica

O'Donoghue, P. (2012). *Statistics for sports and exercise studies: An introduction*. Routledge.

Paulauskas, R., Masiulis, N., Vaquera, A., Figueira, B., & Sampaio, J. (2018). Basketball game-related statistics that discriminate between European players competing in the NBA and in the EuroLeague. *Journal of Human Kinetics*, *65*(1), 225–233. https://doi.org/10.2478/hukin-2018-0030

R Core Team. (2022). *R: A language and environment for statistical computing (Version 4.1)* [Computer software]. R Foundation for Statistical Computing. https://cran.r-project.org

Ramírez-Arroyo, A. P., Gómez-Carmona, C. D., García-Rubio, J., & Ibáñez, S. J. (2022). Influence of match status in match outcome of the game in professional basketball regarding sex and type of competition. *RICYDE. Revista Internacional de Ciencias del Deporte*, *18*(70), 202–218. https://doi.org/10.5232/ricyde2022.07001

Read, B., & Edwards, P. (1992). *Teaching children to play games*. White Line Publishing.

Rojas-Valverde, D., Gómez-Carmona, C., Rico-González, M., & Pino-Ortega, J. (2022). A proposal of speed zone classification in basketball: A New-Criteria Based on Maximum Registered Values. *MHSalud: Revista en Ciencias del Movimiento Humano y Salud*, *19*(2), 1–14. https://doi.org/10.15359/mhs.19-2.2

Salazar, H., Castellano, J., & Svilar, L. (2020). Differences in external load variables between playing positions in elite basketball match-play. *Journal of Human Kinetics*, *75*(1), 257–266. https://doi.org/10.2478/hukin-2020-0054

Sampaio, J., Ibáñez, S. J., Gómez, M. A., Lorenzo, A., & Ortega, E. (2008). Game location influences basketball players' performance across playing positions. *International Journal of Sport Psychology*, *39*(3), 205–216. https://www.researchgate.net/publication/41880211_Game_location_influences_basketball_players'_performance_across_playing_positions

Sampaio, J., Janeira, M., Ibáñez, S., & Lorenzo, A. (2006). Discriminant analysis of game-related statistics between basketball guards, forwards, and centres in three professional leagues. *European Journal of Sport Science*, *6*(3), 173–178. https://doi.org/10.1080/17461390600676200

Stojanović, E., Stojiljković, N., Scanlan, A. T., Dalbo, V. J., Berkelmans, D. M., & Milanović, Z. (2018). The activity demands and physiological responses encountered during basketball match-play: A systematic review. *Sports Medicine*, *48*(1), 111–135. https://doi.org/10.1007/s40279-017-0794-z

The jamovi project. (2023*). jamovi (Version 2.4)* [Computer software]. https://www.jamovi.org

Waterman, M. J., Birch, J. B., & Abdel-Salam, A.-S. G. (2015). Several nonparametric and semiparametric approaches to linear mixed model regression. *Journal of Statistical Computation and Simulation*, *85*(5), 956–977. https://doi.org/10.1080/00949655.2013.856435

Zhang, S., Lorenzo, A., Gómez, M. A., Liu, H., Gonçalves, B., & Sampaio, J. (2017). Players' technical and physical performance profiles and game-to-game variation in the NBA. *International Journal of Performance Analysis in Sport*, *17*(4), 466–483. https://doi.org/10.1080/24748668.2017.1352432

ANALYSIS OF TECHNICAL-TACTICAL IN THE ACB BASKETBALL LEAGUE ACCORDING TO THE SPECIFIC POSITION AND PHASE COMPETITION